

NHDOT SPR2 PROGRAM

RESEARCH PROGRESS REPORT

INSTRUCTIONS:

Project Managers and/or research project investigators should complete a progress report at least every three months during the project duration. Reports are due the 5th of the month following the end of the quarter. Please provide a project update even if no work was done during this reporting period.

Project # 26962S		Report Period Year 2017 <input type="checkbox"/> Q1 (Jan-Mar) <input checked="" type="checkbox"/> Q2 (Apr-Jun) <input type="checkbox"/> Q3 (Jul-Sep) <input type="checkbox"/> Q4 (Oct-Dec)	
Project Title: Assessing lower impulse load levels on reinforced asphalt pavement			
Project Investigator: Lynette Barna Phone: 603-646-4503		E-mail: Lynette.A.Barna@usace.army.mil	
Project Start Date: 03 January 2017 ^a 30 November 2016	Project End Date: 03 January 2018	Project schedule status: <input checked="" type="checkbox"/> On schedule <input type="checkbox"/> Ahead of schedule <input type="checkbox"/> Behind schedule <i>Check appropriate box</i>	

^a. **Project start date per Cooperative Research and Development Agreement (CRADA)**

Brief Project Description:

NHDOT installed fiberglass grid reinforcement in several flexible roadways throughout the state in an effort to address fatigue cracking and extend the service life. Coefficient values for fiberglass reinforced asphalt pavement are needed for design. Data collected during the fall of 2014 from impulse load testing at three test sections representing the thin asphalt layer will be analyzed to determine coefficient values for design. The field data was collected on NH Route 101 using Falling Weight Deflectometer [FWD] and Lightweight Deflectometer [LWD] pavement testing equipment. The data analysis will evaluate the FWD deflection measurements at the lower load levels and the LWD data to determine the possible benefit of reinforcing grid in the asphalt layer.

Progress this Quarter (include meetings, installations, equipment purchases, significant progress, etc.):

- Field data files from the light weight deflectometer (LWD) for NH 101 Test Sections at East Bound mile marker 128.4, West Bound mile marker 128.0, and West Bound mile marker 131.5 were reviewed and checked. LWD data was collected at six test points within each Test Section. LWD data from the 6, 8, 9, and 12 kip load levels provided 287 useable deflection readings.

Items needed from NHDOT (i.e., Concurrence, Sub-contract, Assignments, Samples, Testing, etc...):

NTR

Anticipated research next three(3) months:

Task 2. Apply a backcalculation approach on the FWD and LWD data to quantify the material layer properties and the effect of the fiberglass grid reinforcement within the asphalt concrete pavement layer. The results will be compared to the control test section (without fiberglass reinforcement).

2.1 The backcalculation will use available and accepted software packages. Examples of providers of backcalculation software include Dynatest International or the U.S. Army Corps of Engineers Pavement- Transportation Computer Assisted Structural Evaluation (PCASE).

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Circumstances affecting project:

NTR

Tasks (from Work Plan) <i>add lines to table as needed</i>	Planned % Complete	Actual % Complete
<i>4th Quarter (Oct-Dec 2016)</i> <i>No tasking</i>	-----	-----
<i>Project Requirements 1st Quarter (Jan-Mar)</i> <i>Project work acceptance documents and project setup</i>	100	100
<i>Task 1a 1st Quarter (Jan-Mar)</i> <i>Prepare the FWD data at 6, 9, and 12 kip load levels, for back-calculation.</i>	100	100%
<i>Task 1b 2nd Quarter (Apr-Jun)</i> <i>Prepare the LWD data at 6, 8, 9, and 12 kip load levels, for back-calculation</i>	100	100
<i>Task 2 3rd Quarter (Jul-Sep)</i> <i>Conduct backcalculation on FWD and LWD data</i>	100	